

# SEQUENCE LISTING

<110> Innogenetics N.V.

<120> Multi-mer peptides derived from Hepatitis C Virus envelope proteins for diagnostic use and vaccination purposes.

<130> PCT98.75.HCV30

<140> PCT/EP98/07105

<141> 1998-11-06

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<151> 1997-11-06

<160> 41

<170> patenting Ver. 2.1

<210> 1

<211> 35

<212> PRT

<213> Hepatitis C virus

<400> 1

Tyr	Gln	Val	Arg	Asn	Ser	Thr	Gly	Leu	Tyr	His	Val	Thr	Asn	Asp	Cys
1				5				10						15	

Pro	Asn	Ser	Ser	Ile	Val	Tyr	Glu	Ala	Ala	Asp	Ala	Ile	Leu	His	Thr
			20					25					30		

Pro	Gly	Cys
		35

<210> 2

<211> 35

<212> PRT

<213> Hepatitis C virus

<400> 2

Tyr	Glu	Val	Arg	Asn	Val	Ser	Gly	Ile	Tyr	His	Val	Thr	Asn	Asp	Cys
1				5				10						15	

Ser	Asn	Ser	Ser	Ile	Val	Tyr	Glu	Ala	Ala	Asp	Met	Ile	Met	His	Thr
			20					25					30		

Pro	Gly	Cys
		35

<210> 3

<211> 35

<212> PRT

<213> Hepatitis C virus

<400> 3

Val Glu Val Lys Asn Asn Ser Asn Ser Tyr Met Ala Thr Asn Asp Cys  
1 5 10 15

Ser Asn Ser Ser Ile Ile Trp Gln Leu Glu Gly Ala Val Leu His Thr  
20 25 30

Pro Gly Cys  
35

<210> 4

<211> 35

<212> PRT

<213> Hepatitis C virus

<400> 4

Val Glu Val Lys Asn Thr Ser Thr Ser Tyr Met Val Thr Asn Asp Cys  
1 5 10 15

Ser Asn Ser Ser Ile Val Trp Gln Leu Glu Gly Ala Val Leu His Thr  
20 25 30

Pro Gly Cys  
35

<210> 5

<211> 35

<212> PRT

<213> Hepatitis C virus

<400> 5

Leu Glu Trp Arg Asn Thr Ser Gly Leu Tyr Val Leu Thr Asn Asp Cys  
1 5 10 15

Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp Val Ile Leu His Thr  
20 25 30

Pro Gly Cys  
35

<210> 6

<211> 24

<212> PRT

<213> Hepatitis C virus

<400> 6

Leu Thr Asn Asp Cys Ser Asn Ser Ser Ile Val Tyr Glu Ala Asp Asp  
1 5 10 15

Val Ile Leu His Thr Pro Gly Cys  
20

<210> 7

<211> 35  
<212> PRT  
<213> Hepatitis C virus

<400> 7  
Ile Asn Tyr Arg Asn Val Ser Gly Ile Tyr His Val Thr Asn Asp Cys  
1 5 10 15  
Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp His His Ile Leu His Leu  
20 25 30  
Pro Gly Cys  
35

<210> 8  
<211> 35  
<212> PRT  
<213> Hepatitis C virus

<400> 8  
Val Pro Tyr Arg Asn Ala Ser Gly Ile Tyr His Ile Thr Asn Asp Cys  
1 5 10 15  
Pro Asn Ser Ser Ile Val Tyr Glu Ala Asp Asn Leu Ile Leu His Ala  
20 25 30  
Pro Gly Cys  
35

<210> 9  
<211> 35  
<212> PRT  
<213> Hepatitis C virus

<400> 9  
Leu Thr Tyr Gly Asn Ser Ser Gly Leu Tyr His Leu Thr Asn Asp Cys  
1 5 10 15  
Ser Asn Ser Ser Ile Val Leu Glu Ala Asp Ala Met Ile Leu His Leu  
20 25 30  
Pro Gly Cys  
35

<210> 10  
<211> 29  
<212> PRT  
<213> Hepatitis C virus

<400> 10  
Ile Val Tyr Glu Ala Ala Asp Met Ile Met His Thr Pro Gly Cys Val  
1 5 10 15  
Pro Cys Val Arg Glu Asn Asn Ser Ser Arg Cys Trp Val

20

25

<210> 11  
 <211> 34  
 <212> PRT  
 <213> Hepatitis C virus

<400> 11  
 Val Arg Glu Asn Asn Ser Ser Arg Cys Trp Val Ala Leu Thr Pro Thr  
 1 5 10 15

Leu Ala Ala Arg Asn Ala Ser Val Pro Thr Thr Thr Ile Arg Arg His  
 20 25 30

Val Asp

<210> 12  
 <211> 36  
 <212> PRT  
 <213> Hepatitis C virus

<400> 12  
 Pro Cys Val Arg Glu Asn Asn Ser Ser Arg Cys Trp Val Ala Leu Thr  
 1 5 10 15

Pro Thr Leu Ala Ala Arg Asn Ala Ser Val Pro Thr Thr Thr Ile Arg  
 20 25 30

Arg His Val Asp  
 35

<210> 13  
 <211> 30  
 <212> PRT  
 <213> Hepatitis C virus

<400> 13  
 His Val Asp Leu Leu Val Gly Ala Ala Ala Phe Cys Ser Ala Met Tyr  
 1 5 10 15

Val Gly Asp Leu Cys Gly Ser Val Phe Leu Val Ser Gln Leu  
 20 25 30

<210> 14  
 <211> 40  
 <212> PRT  
 <213> Hepatitis C virus

<400> 14  
 Ser Gln Leu Phe Thr Ile Ser Pro Arg Arg His Glu Thr Val Gln Asp  
 1 5 10 15

Cys Asn Cys Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala  
20 25 30

Trp Asp Met Met Met Asn Trp Ser  
35 40

<210> 15

<211> 34

<212> PRT

<213> Hepatitis C virus

<400> 15

Ser Ile Tyr Pro Gly His Ile Thr Gly His Arg Met Ala Trp Asp Met  
1 5 10 15

Met Met Asn Trp Ser Pro Thr Thr Ala Leu Val Val Ser Gln Leu Leu  
20 25 30

Arg Ile

<210> 16

<211> 41

<212> PRT

<213> Hepatitis C virus

<400> 16

Pro Gln Ala Val Val Asp Met Val Ala Gly Ala His Trp Gly Val Leu  
1 5 10 15

Ala Gly Leu Ala Tyr Tyr Ser Met Val Gly Asn Trp Ala Lys Val Leu  
20 25 30

Val Val Met Leu Leu Phe Ala Gly Val  
35 40

<210> 17

<211> 32

<212> PRT

<213> Hepatitis C virus

<400> 17

His Thr Arg Val Ser Gly Gly Ala Ala Ala Ser Asn Thr Arg Gly Leu  
1 5 10 15

Val Ser Leu Phe Ser Pro Gly Ser Ala Gln Lys Ile Gln Leu Val Asn  
20 25 30

<210> 18

<211> 35

<212> PRT  
<213> Hepatitis C virus

<400> 18  
Leu Val Asn Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala Leu Asn  
1 5 10 15  
Cys Asn Asp Ser Leu Gln Thr Gly Phe Phe Ala Ala Leu Phe Tyr Lys  
20 25 30  
His Lys Phe  
35

<210> 19  
<211> 38  
<212> PRT  
<213> Hepatitis C virus

<400> 19  
Asn Asp Ser Leu Gln Thr Gly Phe Phe Ala Ala Leu Phe Tyr Lys His  
1 5 10 15  
Lys Phe Asn Ser Ser Gly Cys Pro Glu Arg Leu Ala Ser Cys Arg Ser  
20 25 30  
Ile Asp Lys Phe Ala Gln  
35

<210> 20  
<211> 28  
<212> PRT  
<213> Hepatitis C virus

<400> 20  
Arg Ser Ile Asp Lys Phe Ala Gln Gly Trp Gly Pro Leu Thr Tyr Thr  
1 5 10 15  
Glu Pro Asn Ser Ser Asp Gln Arg Pro Tyr Cys Trp  
20 25

<210> 21  
<211> 34  
<212> PRT  
<213> Hepatitis C virus

<400> 21  
Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala Pro Arg Pro Cys Gly  
1 5 10 15  
Ile Val Pro Ala Ser Gln Val Cys Gly Pro Val Tyr Cys Phe Thr Pro  
20 25 30

Ser Pro

<210> 22  
<211> 31  
<212> PRT  
<213> Hepatitis C virus

<400> 22  
Ser Gln Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser Pro Val Val  
1 5 10 15  
Val Gly Thr Thr Asp Arg Phe Gly Val Pro Thr Tyr Asn Trp Gly  
20 25 30

<210> 23  
<211> 44  
<212> PRT  
<213> Hepatitis C virus

<400> 23  
Gly Val Pro Thr Tyr Asn Trp Gly Ala Asn Asp Ser Asp Val Leu Ile  
1 5 10 15  
Leu Asn Asn Thr Arg Pro Pro Arg Gly Asn Trp Phe Gly Cys Thr Trp  
20 25 30  
Met Asn Gly Thr Gly Phe Thr Lys Thr Cys Gly Gly  
35 40

<210> 24  
<211> 36  
<212> PRT  
<213> Hepatitis C virus

<400> 24  
Ala Asn Asp Ser Asp Val Leu Ile Leu Asn Asn Thr Arg Pro Pro Arg  
1 5 10 15  
Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Gly Thr Gly Phe Thr Lys  
20 25 30  
Thr Cys Gly Gly  
35

<210> 25  
<211> 25  
<212> PRT  
<213> Hepatitis C virus

<400> 25  
Thr Arg Pro Pro Arg Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Gly  
1 5 10 15

Thr Gly Phe Thr Lys Thr Cys Gly Gly  
20 25

<210> 26  
<211> 30  
<212> PRT  
<213> Hepatitis C virus

<400> 26  
Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn Ile Gly Gly Ala Gly Asn  
1 5 10 15

Asn Thr Leu Thr Cys Pro Thr Asp Cys Phe Arg Lys His Pro  
20 25 30

<210> 27  
<211> 45  
<212> PRT  
<213> Hepatitis C virus

<400> 27  
Thr Asp Cys Phe Arg Lys His Pro Glu Ala Thr Tyr Ala Arg Cys Gly  
1 5 10 15

Ser Gly Pro Trp Leu Thr Pro Arg Cys Met Val His Tyr Pro Tyr Arg  
20 25 30

Leu Trp His Tyr Pro Cys Thr Val Asn Phe Thr Ile Phe  
35 40 45

<210> 28  
<211> 33  
<212> PRT  
<213> Hepatitis C virus

<400> 28  
Ala Arg Cys Gly Ser Gly Pro Trp Leu Thr Pro Arg Cys Met Val His  
1 5 10 15

Tyr Pro Tyr Arg Leu Trp His Tyr Pro Cys Thr Val Asn Phe Thr Ile  
20 25 30

Phe

<210> 29  
<211> 25  
<212> PRT  
<213> Hepatitis C virus

<400> 29  
Leu Thr Pro Arg Cys Met Val His Tyr Pro Tyr Arg Leu Trp His Tyr  
1 5 10 15



Pro Cys Thr Val Asn Phe Thr Ile Phe  
20 25

<210> 30  
<211> 28  
<212> PRT  
<213> Hepatitis C virus

<400> 30  
Thr Val Asn Phe Thr Ile Phe Lys Val Arg Met Tyr Val Gly Gly Val  
1 5 10 15

Glu His Arg Phe Glu Ala Ala Cys Asn Trp Thr Arg  
20 25

<210> 31  
<211> 33  
<212> PRT  
<213> Hepatitis C virus

<400> 31  
Glu Ala Ala Cys Asn Trp Thr Arg Gly Glu Arg Cys Asp Leu Glu Asp  
1 5 10 15

Arg Asp Arg Ser Glu Leu Ser Pro Leu Leu Leu Ser Thr Thr Glu Trp  
20 25 30

Gln

<210> 32  
<211> 36  
<212> PRT  
<213> Hepatitis C virus

<400> 32  
Gln Trp Gln Ile Leu Pro Cys Ser Phe Thr Thr Leu Pro Ala Leu Ser  
1 5 10 15

Thr Gly Leu Ile His Leu His Gln Asn Ile Val Asp Val Gln Tyr Leu  
20 25 30

Tyr Gly Val Gly  
35

<210> 33  
<211> 42  
<212> PRT  
<213> Hepatitis C virus

<400> 33  
Gly Val Gly Ser Ala Val Val Ser Leu Val Ile Lys Trp Glu Tyr Val

1                      5                      10                      15

Leu Leu Leu Phe Leu Leu Leu Ala Asp Ala Arg Ile Cys Ala Cys Leu  
                     20                      25                      30

Trp Met Met Leu Leu Ile Ala Gln Ala Glu  
                     35                      40

<210> 34  
 <211> 34  
 <212> PRT  
 <213> Hepatitis C virus

<400> 34  
 Asn Thr Arg Gly Leu Val Ser Leu Phe Ser Pro Gly Ser Ala Gln Lys  
   1                      5                      10                      15

Ile Gln Leu Val Asn Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala  
                     20                      25                      30

Leu Asn

<210> 35  
 <211> 31  
 <212> PRT  
 <213> Hepatitis C virus

<400> 35  
 Asp Arg Ser Glu Leu Ser Pro Leu Leu Leu Ser Thr Thr Glu Trp Gln  
   1                      5                      10                      15

Ile Leu Pro Cys Ser Phe Thr Thr Leu Pro Ala Leu Ser Thr Gly  
                     20                      25                      30

<210> 36  
 <211> 20  
 <212> PRT  
 <213> Hepatitis C virus

<400> 36  
 Val Gly Thr Thr Asp Arg Phe Gly Val Pro Thr Tyr Asn Trp Gly Ala  
   1                      5                      10                      15

Asn Asp Ser Asp  
                     20

<210> 37  
 <211> 40  
 <212> PRT  
 <213> Hepatitis C virus

<400> 37

Val Ala Leu Thr Pro Thr Leu Ala Ala Arg Asn Ala Ser Val Pro Thr  
1 5 10 15

Thr Thr Ile Arg Arg His Val Asp Ser Gln Leu Phe Thr Ile Ser Pro  
20 25 30

Arg Arg His Glu Thr Val Gln Asp  
35 40

<210> 38

<211> 36

<212> PRT

<213> Hepatitis C virus

<400> 38

Thr His Ala Cys Arg Ala Asn Gly Gln Tyr Phe Leu Thr Asn Cys Cys  
1 5 10 15

Ala Pro Glu Asp Ile Gly Phe Cys Leu Glu Gly Gly Cys Leu Val Ala  
20 25 30

Leu Gly Gly Lys  
35

<210> 39

<211> 16

<212> PRT

<213> Hepatitis C virus

<400> 39

Ser Gln Leu Phe Thr Ile Ser Pro Arg Arg His Glu Thr Val Gln Asp  
1 5 10 15

<210> 40

<211> 35

<212> PRT

<213> Hepatitis C virus

<400> 40

Leu Ile Asn Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala Leu Asn  
1 5 10 15

Cys Asn Asp Ser Leu His Thr Gly Phe Leu Ala Ser Leu Phe Tyr Thr  
20 25 30

His Ser Phe  
35